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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
HAN, QI	

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/803,255	MEURS ET AL.	
	Examiner	Art Unit	
	QI HAN	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 April 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-5,8-25,27,29,31,33,36-49,51-56,58,60,63-81 and 83-87* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *29,31,33,36-49,51-56,58,60 and 63-81* is/are allowed.

6)☒ Claim(s) *1,3-5,8-25,27 and 83-87* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *04/28/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Information Disclosure Statement

3. The references listed in the Information Disclosure Statement submitted on 04/28/2008 have been considered by the examiner (see attached PTO-1449).

Response to Amendment

4. This communication is responsive to the applicant's amendment and RCE both filed on 04/28/2008. The applicant(s) amended claims 1, 8, 16, 29, 36, 44, 49, 56, 63, 71 and 85-86, and cancelled claims 7, 35 and 62 (see the amendment: pages 2-21).

The examiner withdrew the previous rejection of claims 29, 31, 33, 35-56, 58, 60, 62-81 under 35 USC 112, because the applicant amended or cancelled the corresponding claims and they are overcomes the rejection.

Response to Arguments

5. Applicant's arguments filed on 04/28/2008 with respect to the claims 1, 3-5, 8-25, 27 and 84-87 rejection under 35 USC 102/103, have been fully considered but are moot in view of the new ground(s) of rejection, since the amended claims introduce new issue (or new matter) and/or change the scope of the claims. The response to the applicant's arguments based on the newly amended claims (see Remarks, pages 24-28) is directed to the corresponding new ground(s) rejection (see detail below).

Claim Rejections - 35 USC § 112

6. Claims 85-86 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 85, the limitation of "wherein **both** said set of phonetic sequences **and said set of stroke sequence** in said input method specific database **comprise spellings** associated with **regional accents**, said method further comprising the steps of: providing the user with spelling variations based on both said input sequence and confusion sets; ... ", introduces

new subject matter, because the limitation is not specifically described in the original specification. Further, it should be pointed out that the referenced content in the specification (page 20, lines 9-10) provided by the applicant (see the amendment filed on 09/12/2007: page 28, last paragraph), does not fully support the amended claim limitation.

Regarding claim 86, the limitation of "said linguistic model causes said step of displaying to display a predicted word **before the user types any characters** of said input sequence for said predicted word", introduces new subject matter, because the limitation is not specifically described in the original specification. The applicant also failed to provide specific referenced content in the specification to show where the limitation comes from (see Remarks: page 28, last paragraph).

Claim Rejections - 35 USC § 103

7. Claims 1, 4-5, 8-15 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over WILLIAMS (2003/0144830 A1) in view of MARX et al. (US 6,173,266 B1) hereinafter referenced as MARX.

As per **claim 1**, WILLIAMS discloses 'language module and method for user with text processing devices' (title), comprising:

"(a) entering an input sequence into a user input device, wherein said user input device comprises:

a reduced keyboard input device having a plurality of input means, each being associated with at least one of a plurality of strokes and a plurality of phonetic characters, an input sequence being generated each time an input means is selected by a user,

wherein the generated input sequence has an interpretation that is ambiguous due to the plurality of strokes or phonetic characters associated with each input means" (paragraph (hereinafter references as p) 34, 'pressing keys (a plurality of input means) of a mobile telephone'; p46, 'keypad (reduced keyboard)'; p59, 'subsequent strokes can be entered'; p62, 'enter the subsequent letter of the intended Chinese character's phonetic spelling' and 'language model 104 receives this data (Pinyin)…either unambiguously or categorically as a group of two or more Latin letters and retunes a number of candidate characters (implying interpretation is ambiguous)');

"an input method specific database containing both a set of stroke sequences corresponding to input sequences and a set of phonetic sequences corresponding to input sequences", (p58-p63, 'language module 104 implements three user input modes (method)', 'subsequent strokes can be entered to further limit the list of candidate characters…', 'receive data … in a series of input', 'generates a list of addresses of characters'; p54-p55, 'contents of word buffer 210 is used by input interpretation logic and database 214 to better select language unit candidates according to the context of recently entered language units (can be a series of strokes or Pinyin letters)'; 'support two different context modes': 'uses dictionary' and 'uses a list of proper nouns', wherein the database necessarily and/or inherently contains stroke sequences and/or phonetic sequences);

"an ideographic database comprising indices associated with both said set of stroke sequences and said set of phonetic sequences, said indices corresponding to: a set of phonetic sequences whose spellings correspond to said input sequence, and

a set of stroke sequences corresponding to the input sequence, wherein each of said set of phonetic sequences and said set of stroke sequences represent a phrase comprising two or more ideographic characters", (p58, implements both GB-2312 and Big5 standard character sets (corresponding the ideographic database) of the Chinese written language'; p35, 'Font 216 store data (can also be interpreted as ideographic sequence database)'; wherein the database GB-2312 or Big5 is necessarily and/or inherently associated with (or indexed by) both stroke sequences and phonetics sequence, in order to either support stroke based input mode or phonetic based input mode; p31, 'stores data representing key strokes (sequence) entered by the user in specifying a message unit' that 'can be a character, a word, or a phrase' including 'multiple characters (two or more ideographic characters)'; also see p54);

"(b) comparing said input sequence with said input method specific database and finding one or more matching stroke or phonetic sequences corresponding to said input sequence", (p59, 'the user enters the first written stroke by pressing a key corresponding to (comparing) the class to which the stroke belongs …enters the next stroke…subsequent strokes can be entered for further limit the list of candidate character'; p62, 'use either selects a character or enters the subsequent letter of the intended Chinese character's phonetic spelling');

"(c) converting said matching stroke or phonetic sequences to one or more corresponding sequences representing phrases comprising two or more ideographic characters using said indices", (p54-p55, 'contents of word buffer 210 is used by input interpretation logic and database 214 to better select language unit candidates according to the context of recently entered language units', 'uses single-character word but frequently also use multi-character

words (corresponding to phrases)', 'uses a dictionary of ordinary words to select candidates of intended languages units'(converting); p61-p62, 'delivers candidates which are closely linked to the previous character(s) to form words or names (phrases), 'process can be repeated for subsequent Chinese characters (phrases)');

"(d) prioritizing stroke or phonetic sequences that match an input sequence and prioritizing ideographic character sequences that match a stroke or phonetic sequence according to a linguistic model [, wherein said model comprises a semantic model]", (p59, 'the user enters the first written stroke by pressing a key corresponding to the class to the stroke belongs and is shown the occurrence frequency of characters beginning with that stroke (suggesting the higher frequency the more likely to be selected--being interpreted as prioritized or prioritizing) in everyday language usage' (broadly interpreted as linguistic model); p58, 'language model (also corresponding to linguistic model)', 'language module 104' , 'the resulting candidates' including 'one or more message units (characters) which match one or more user input gestures (strokes or phonetics)…stored in order of frequency of use of each candidate', 'the order of the candidates can also be influenced by the frequency and/or recency of use (interpreted as prioritizing, in light of the specification (page 21, last paragraph, also see Remarks: page 24, last paragraph) of each candidate', 'adapt and learn the frequently used words, slang terms, proper nouns...'); and

"displaying one or more found stroke or phonetic sequences, and one or more phrases corresponding to said found stroke or phonetic sequences of ideographic characters", (p62, 'returns a number of candidate characters in the Chinese language' and 'these candidates are displayed to the user'; p85, 'the display contains the stroke input history, the candidate characters and the candidate component symbols').

WILLIAMS does not expressly disclose "a semantic model". However, the feature is well known in the art as evidenced by MARX who discloses 'system and method for developing interactive speech applications' (title), comprising 'speech input components' including 'speech recognition engine… for determining a phonetic representation of an input spoken word (i.e. phonetic input sequences' (col. 7, lines 29-46), and 'semantic adjustment' and 'the semantic model used by the recognition engine' (col. 35, lines 35-45). One of ordinary skill in the art would have recognized that the method of using semantic model for matching/recognizing ideographic character sequence applied to a phonetic sequence would be the same as or similar to the method applied to a stroke sequence and the implementation would be within the capability of the skilled person without any difficulty, because this simple substitution would not change fundamental functionality of the semantic model and the result using stroke sequence would be in the same predictable level as using phonetic sequence. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify WILLIAMS by providing a semantic model for a adaptive recognition of spoken input (phonetic sequence) or stroke sequence, as taught by MARX for the purpose (motivation) of providing highest possible recognition accuracy for the system (MARX: col. 4, lines 30-32).

As per **claim 4** (depending to claim 1), the rejection is based on the same reason described for claim 1, because it also reads on the limitation(s) of claim 4.

As per **claim 5** (depending on claim 4), WILLIAMS in view MARX further discloses "said phonetic input system is a Pinyin system or a Zhuyin system" (WILLIAMS: p62-p63, 'Pinyin' and 'BoPoMoFo').

As per **claim 8** (depending on claim 1), WILLIAMS in view MARX further discloses "said linguistic model comprises at least one of: … ; frequency of occurrence of ideographic character sequences, stroke sequences or phonetic sequences in formal or conversational written text; frequency of occurrence of ideographic character sequences, stroke sequences or phonetic sequences when following a preceding character or characters; …" (WILLIAMS: p59, 'the occurrence frequency'; also see p58, 'language model').

As per **claim 9** (depending on claim 1), WILLIAMS in view MARX discloses "said phonetic sequences comprise single syllables" (WILLIAMS: p62, wherein entering 'Han Yu Pinyin' letters for 'word or name list' necessarily and/or inherently includes single syllables).

As per **claim 10** (depending on claim 1), WILLIAMS in view MARX discloses "said phonetic sequences comprise both single and multiple syllables" (WILLIAMS: p62, wherein entering 'Han Yu Pinyin' letters for 'word or name list' necessarily and/or inherently includes both single syllables and multiple syllables).

As per **claim 11** (depending on claim 1), WILLIAMS in view MARX further discloses "said phonetic sequences comprise user generated sequences" (WILLIAMS: p62, 'the user enters (generates) the first letter …' then 'the user …enters the subsequent letter (sequence) of the intended Chinese character's phonetic spelling').

As per **claim 12** (depending on claim 11), WILLIAMS in view MARX further discloses "in absence of matching phonetic sequences in said input method specific database, a sequence of matching phonetic sequences is automatically generated based on single and optionally multiple syllable phonetic sequences" (WILLIAMS: p62, 'when there are no more valid linkage (absence of matching) according to contextual relations between characters (such as multi-

character words including the previous entered characters)…delivers (automatically generate) unlinked candidate characters' and 'the invocation of word association, whether by word or name list, is processed as previously described').

As per **claim 13** (depending on claim 12), WILLIAMS in view MARX further discloses "said sequence of matching phonetic sequences is narrowed down through user interaction" (WILLIAMS: p59 and p62, 'subsequence strokes (or Pinyin letters) can be entered to further limit the list of characters (narrowed down through user interaction)').

As per **claim 14** (depending on claim 12), WILLIAMS in view MARX further discloses "a sequence of matching ideographic character sequences is automatically generated based on matching phonetic sequences to ideographic character sequences" (WILLIAMS: p62, 'these candidates (matched ideographic character sequences) are displayed 'automatically generated)').

As per **claim 15** (depending on claim 14), the rejection is based on the same reason described for claim 13, because the claim recites the same or similar limitations as claim 15.

As per **claim 21** (depending on claim 1), the rejection is based on the same reason described for claim 13, because it also reads on the limitation(s) of claim 21.

As per **claim 22** (depending on claim 21), the rejection is based on the same reason described for claim 13, because it also reads on the limitation(s) of claim 22.

As per **claim 23** (depending on claim 22), the rejection is based on the same reason described for claim 8, because the claim recites the same or similar limitations as claim 8.

8. Claims 3, 16, 18-20, 24-25, 83-84 and 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over WILLIAMS in view of MARX applied to claim 1, and further in view of NI et al. (6,822,585 B1) hereinafter referenced as NI.

As per **claim 3** (depending on claim 1), WILLIAMS in view of MARX does not expressly disclose "said stroke input system is a five-stroke or an eight-stroke system". However, the feature is well known in the art as evidenced by NI who discloses 'input of symbols' (title), comprising 'any graphic glyph which can be inputted directly from a keyboard or a keypad' and 'the symbols include a alphabets, digits…character strokes and tone marks' (col. 4, lines 21-26); 'inputting characters into a terminal… having a plurality of keys', 'a number of the keys have associated with them a alphabet of different symbols (alternatively associated) which can be accessed and indicated in a display by means of single or multiple key selections or key presses of the keys' (col. 4, lines 15-32), using 'Chinese input dictionary which contains a mapping table of Pinyin string (phonetic characters) and matching Chinese characters (corresponding to ideographic database)' (col. 6, lines 3-9), and that 'the invention significantly simplifies the input of Pinyin (phonetic input) ... with carefully designed key mapping, this method can also improve other Chinese input methods …such as Bopomofo or Wubizixin (five stroke input)' (col. 11, lines 18-23), which suggests that Chinese dictionary (ideographic database) is necessarily associated with both Pinyin and stroke inputs and capable of allowing user select one of input methods. NI also teaches that 'most of the existing Chinese input methods were original designed for PC keyboards' and discloses the previous endeavor for a character input method that requires more basic input symbols than the number of keys on a keypad (col. 1, line 52 to col. 2, lines 40). Therefore, it would have been obvious to one of

ordinary skill in the art at the time the invention was made to modify WILLIAMS in view of MARX by providing input means with a plurality of keys that are associated with different symbols and using ideogram dictionary (database), such as Chinese input dictionary associated with input in both Pinyin method and Wubizixin (five stroke input) method, as taught by NI, for the purpose (motivation) of improving character input method (NI: col. 11, lines 21-23) for the system.

As per **claim 16** (depending on claim 1), WILLIAMS in view of MARX does not expressly disclose "once an ideographic character sequence is selected, changing the associated priority of the matching phonetic sequence and the sequence of ideographic characters". However, the feature is well known in the art as evidenced by NI who further discloses 'during input of text, a user is presented with a list of the Latin symbols in an order determined (changed) by the probability (associated priority) of being the next symbol rather than being in default, for example alphabetical order', which suggests selection from the list may also changes the associated priority (order)' (Ni: col. 3, lines 66 to col. 4, line 5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify WILLIAMS in view of MARX by providing a list of the symbols to determine the probability (associated priority) of being the next symbol rather than being in default, for example alphabetical order, as taught by NI, for the purpose (motivation) of improving character input method and/or providing the most probable symbols (NI: col. 11, lines 21-23 and col. 3, lines 64) for the system.

As per **claim 18** (depending on claim 1), as stated above, WILLIAMS in view of MARX discloses that "when user enters a sequence of phonetic character, returning a sequence of

phonetic sequences of exact matches" (WILLIAMS: p62-p63, 'input mode known as "Han Yu Pinyin'" and 'BoPoMoFo', either of them necessary includes exact matches; the candidate characters and the candidate component symbols'), but does not expressly disclose returning "predictions that partially match". However, the feature is well known in the art as evidenced by NI who further discloses 'predicts the next Chinese character according to the context and a Chinese word database' and shows partial match (col. 3, lines 49-60 and Fig. 5, referenced number 25). One of ordinary skill in the art would have recognized that the predicting method applied to Chinese characters would be the same as or similar to the method applied to a phonetic context (such as Pinyin letters) and the implementation would be within the capability of the skilled person without any difficulty, because this simple substitution would not change fundamental functionality of the predicting method and the result of using phonetic sequence would be in the same predictable level as using Chinese characters. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify in view of MARX by providing predicting the next Chinese character and returning partial partially match (such as using Pinyin sequence), as taught by NI, for the purpose (motivation) of improving character input method (NI: col. 11, lines 21-23) for the system.

As per **claim 19** (depending on claim 18), the rejection is based on the same reason described for claim 1, because it also read on the limitation(s) of claim 19.

As per **claim 20** (depending on claim 19), the rejection is based on the same reason described for claim 1, because it also read on the limitation(s) of claim 20.

As per **claim 24** (depending on claim 1), the rejection is based on the same reason described for claim 18, because the rejection for claim 18 covers the same or similar limitation(s) of this claim.

As per **claim 25** (depending on claim 24), the rejection is based on the same reason described for claim 18, because the rejection for claim 18 covers the same or similar limitation(s) of this claim.

As per **claim 83** (depending on claim 1), the rejection is based on the same reason described for claim 1, because the rejection for claim 1 (element b) covers the same or similar limitation(s) of this claim.

As per **claim 84** (depending on claim 1), the rejection is based on the same reason described for claim 18, because the rejection for claim 18 covers the same or similar limitation(s) of this claim.

As per **claim 86** (depending on claim 1), as best understood in view of the claim rejection under 35 USC 112 1st (see above), the rejection is based on the same reason described for claim 18, because the rejection for claim 18 covers the same or similar limitation(s) of this claim.

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over WILLIAMS in view MARX applied to claim 1, and further in view of KRAFT et al. (US 2003/0017858 A1) hereinafter referenced as KRAFT.

As per **claim 17** (depending on claim 1), WILLIAMS in view MARX does not expressly disclose "the user can specify an explicit ideographic character separator". However, the feature is well known in the art as evidenced by KRAFT who discloses 'data entry by string of possible

candidate information' (title), comprising 'hard separator' and 'soft separator' for separating input text (sentences or words) (p72). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify WILLIAMS in view MARX by providing an separator for inputting text, for the purpose (motivation) of improving method of entering data into a communication terminal (KRAFT: p6).

10. Claim 85 is rejected under 35 U.S.C. 103(a) as being unpatentable over WILLIAMS in view MARX applied to claim 1, and further in view of CHEN (US 6,073146) hereinafter referenced as CHEN and LEE et al. (US 6,848,080 B1) hereinafter referenced as LEE.

As per **claim 85** (depending on claim 1), as best understood in view of the claim rejection under 35 USC 112 1st (see above), WILLIAMS in view MARX does not expressly disclose "spellings associated with regional accents." However, the feature of handling spellings associated with accents/dialects and solving confusion/ambiguity problem is well known in the art as evidenced by CHEN who discloses 'system and method for processing Chinese language text' (title), comprising that 'the accent structure of notional words depends on the dialect', accent structure examples of 'Shanghai dialect' and 'Beijing dialect' using 'pinyin' syllable strings (spelling associated with regional accents), and enveloping/applying/implementing the rules with appropriate processes for the phonetic phenomenon in Chinese language (col. 15, line 60, to col. 16, line 62), which suggests that CHEN's system provides the related accent/dialect information and implements the functionality as claimed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify WILLIAMS in view MARX by providing phonetic information and rules for handling different accents/dialects

in Chinese language, as tough by CHEN, for the purpose (motivation) of improving accuracy of the processing phonetic Chinese for the system (CHEN: col. 16, lines 60-62).

Further, WILLIAMS in view MARX and CHEN does not expressly disclose "providing the user with spelling variations based on both said input sequence and confusion sets; and providing an option for the user to turn off a particular confusion set of said confusion sets." However, the feature is well known in the art as evidenced by LEE who discloses 'language input architecture for converting one text form to another text form with tolerance to spelling, typographical, and conversion errors' (title), comprising disclosure of 'typing errors' in phonetic input due to dialects and accents, such as using Pinyin for input Chinese (col. 2, lines 32-47), 'user types a string (input sequence) of Pinyin input text' with 'errors' that cause 'confusion(s)' (confusion sets) (col. 3, lines 442-58); providing 'typing models' to generate a list of probable typing candidates (spelling variations) that may be substituted for the input string based on typing error probabilities of how likely each of the candidate strings was incorrectly entered (confusion sets) as the input string (input sequence)', 'the probable typing candidates (confusion sets) may be stored in a database' and 'the typing candidates that may be used to correct the typing error' (col. 4, lines 17-37). One of ordinary skill in the art would have recognized that some confusion set caused by phonetic input sequences (such as Pinyin pairs: 'ng' and 'n', sh' and 's', 'zh' and 'z'), could be turned off through a user option, because of its user-dialect/accent nature in the input process, and the result would be very stable and predictive based on a particular user's native dialect/accent. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine teachings of WILLIAMS in view MARX and CHEN, with LEE, by providing probable typing candidates by using typing model

based on typing error (confusion set) probabilities and user option for turning off certain confusion set based on user's native dialect/accent, for the purpose (motivation) of finding the most probable conversion string that represents a converted form of the input string and/or minimizing typographical errors and conversion errors that occur during conversation from phonetic text to the language text (LEE: abstract; col. 4, lines 2-4).

11. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over WILLIAMS in view MARX applied to claim 1, and further in view of ZHANG et al. (US 5,197,810) hereinafter referenced as ZHANG.

As per **claim 27** (depending on claim 1), WILLIAMS in view MARX does not expressly disclose "one of said plurality of inputs is associated with **a special wildcard** input that is associated with zero or one of said phonetic characters". However, the feature of using a wildcard for inputting and displaying symbols/texts is well known in the art as evidenced by ZHANG who discloses method and system for inputting simplified forma and/or original complex form of Chinese character (title), comprising 'Fuzzy auxiliary inputting method' in which some special keys 'can be used in substitution as a wild card' or 'can be used as the fuzzy key (wildcard key)'(col. 13, line 59 to col. 13, line 8). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify WILLIAMS in view MARX by providing an input method with wild card used for substitution of input symbols or text, taught by ZHANG, for the purpose (motivation) of using the wild card in substitution of an input (ZHANG: col. 13, lines 62-63), such as input of Pinyin characters and/or strokes representing Chinese character components.

12. Claim 87 is rejected under 35 U.S.C. 103(a) as being unpatentable over WILLIAMS in view MARX applied to claim 1, and further in view of KIM (US 2007/0106492 A1) hereinafter referenced as KIM.

As per **claim 87** (depending on claim 1), even though WILLIAMS in view MARX discloses "a linguistic model (language model)" that "selects full spelling of a word from said input method specific database based upon said input sequence" (WILLIAMS: p62), WILLIAMS in view MARX does not expressly disclose the input sequence "representing **only the first character** (letter) of each syllable of said word, wherein said each syllable contains multiple characters" However, the feature is well known in the art as evidenced by KIM who discloses 'apparatus and method for inputting alphabet characters' (title), comprising "language restricted concurrent input method" for Chinese, providing 'syllable-based initial code of Chinese', so that when entering "bj" (first character of each syllable of a word), 'the system can provide a word of "Beijing" (in Pinyin) corresponding to the simple code "14" for user" (p480-p484), which read on the claim. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify WILLIAMS in view MARX by providing the language restricted concurrent input method for Chinese using the simple code for inputting first letter of each syllable of a word, for the purpose (motivation) of entering commonly used words with small number of strokes and/or enhance the convenience in entering characters (KIM: p14).

Allowable Subject Matter

13. Claims 29, 31, 33, 36-49, 51-56, 58, 60 and 63-81 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding independent **claims 29 and 56**, the instant application is directed to a system and computer usable medium for receiving input sequences entered by a user and generating a phrase comprising one or more ideographic characters as an output. Each of the independent claims, combining some well known features in the art, respectively identifies the uniquely distinct features of:

a reduced keyboard input device having a plurality of input means, each of said input means being associated with at least one of a plurality of strokes and a plurality of phonetic characters, an input sequence being generated each time an input means is selected by said user, wherein the generated input sequence has an interpretation that is ambiguous due to the plurality of strokes or phonetic characters associated with each input means;

an input method specific database containing at least one of a set of stroke sequences corresponding to input sequences and a set of phonetic sequences corresponding to input sequences;

an ideographic database containing all of:

a set of ideographic character sequences; an ideographic index for each element of said set of ideographic character sequences; a plurality of stroke indices corresponding to said set of stroke sequences; and a plurality of phonetic indices corresponding to said set of phonetic sequence, wherein each sequence

represents a phrase comprising two or more

ideographic characters;

prioritizing stroke or phonetic sequences that match an input sequence and prioritizing ideographic character sequences that match a stroke or phonetic sequence according to a linguistic model, said linguistic model further comprising use of grammar of the surrounding sentence; and

an output device for displaying one or more found stroke, or phonetic sequences, and one or more phrases corresponding to said found stroke or phonetic sequences, wherein said output device simultaneously displays all of: a text region displaying text entered by the user, a phonetic Pinyin spelling selection list, and a Chinese phrase selection list, wherein each phrase of said a Chinese phrase selection list comprises two or more ideographic characters.

14. The prior art of record, WILLIAMS (2003/0144830 A1) in view of MARX et al. (US 6,173,266 B1), NI et al. (6,822,585 B1), KRAFT et al. (US 2003/0017858 A1), CHEN (US 6,073146), LEE et al. (US 6,848,080 B1), ZHANG et al. (US 5,197,810) and KIM (US 2007/0106492 A1), provided numerous teachings and techniques of processing input sequences and converting them into ideographic text (characters), including using reduced keyboard such as keypad on mobile telephone to enter phonetic spelling letters (such as Pinyin) and/or stroke-based sequences and then converting them into written form of an ideographic language (such as Chinese character sequences), providing associated input interpretation logic and database and supporting different context modes, using dictionary and listing candidate characters for

ambiguous/alternative selection, providing standard ideographic database having necessary index(es) for accessing ideographic characters through interpreted input phonetic/stroke sequences, specifying a message unit that can be a character, a word, a phrase (multiple ideographic characters), showing a selection of candidates based on the occurrence frequency of characters in everyday language, and displaying input history, the candidate characters and the candidate component symbols; providing semantic adjustments for adaptive speech recognition by using semantic models; providing Chinese input dictionary for mapping phonetic (such as Pinyin or Bopomofo) and/or stroke (such Wubizixin --five-stroke) sequences to Chinese characters, and using predictive method for input of Chinese characters; displaying possible candidates strings and highlighting some of them and using hard or soft separator for the character string; using accent structure handling dialect/accent problem for phonetic input; providing type model to generate a list of probable typing candidates based on typing error probabilities and suggesting handling some phonetic confusions/ambiguities caused by dialect/accent of certain group of users; providing Fuzzy auxiliary input method for predicting and displaying (i.e. using "Lian-Xiang" method) a list of possible candidates of one or more selective characters and using fuzzy key (wildcard key) for Pinyin/Chinese characters input selection; providing syllable-based initial code of Chinese for entering/input phonetic sequences (such as Pinyin). However, the combined features stated above, are not anticipated by, nor made obvious over the prior art of the record.

Conclusion

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July 10, 2008

/Qi Han/
Examiner, Art Unit 2626